

II. CLAIM AMENDMENTS

1. (Currently Amended) Sensor module comprising

- a radiation-sensitive sensor element ~~(12)~~ providing a radiation-dependent electric output signal,
 - a sensor signal processing circuit ~~(13, 41a, 44a)~~ receiving the output signal from the sensor element ~~(12)~~ and providing a radiation-dependent first electric signal,
 - a temperature-sensitive reference means comprising a reference element thermally coupled to the sensor element and one or several squaring means ~~(14, 15, 41b, 43, 44b)~~ connected to the reference element for simulating the temperature dependency of the photo-electric conversion characteristics of the sensor element and providing a temperature-dependent second electric signal, and
 - a combination means ~~(16)~~ for combining the two electric signals, characterised in that
- the sensor signal processing circuit ~~(13, 41a, 44a)~~, the temperature-sensitive reference means ~~(14, 15, 41b, 43, 44b)~~ and the signal combining means ~~(16)~~ are formed on a single chip ~~(20, 21)~~, and
- the chip ~~(20, 21)~~ and the sensor element ~~(12)~~ are accommodated in a common housing ~~(22, 62, 64)~~.

2. (Original) Sensor module according to claim 1, characterised in that the housing (22, 62, 64) is provided with electrically conductive or semi-conductive walls.
3. (Previously Presented) Sensor module according to claim 1, characterised in that the housing (22, 62, 64) has a cylindrical shape and the cylinder has a diameter of less than 10 mm.
4. (Previously Presented) Sensor module according to claim 1, characterised in that the housing (22, 62, 64) is a housing of the design T05.
5. (Previously Presented) Sensor module according to claim 1, characterised in that the sensor signal processing circuit (13, 41a, 44a) is provided with a first amplifier (41a).
6. (Previously Presented) Sensor module according to claim 1, characterised in that the reference means (14, 15, 41b 43, 44b) comprises a reference element (14) and a second amplifier (41b).
7. (Cancelled)
8. (Previously Presented) Sensor module according to claim 1, characterised by a compensation means (44a) for compensating the influence of the power dissipation of electronic components on the output signal.

9. (Previously Presented) Sensor module according to claim 1, characterised by a radiation-transmissible window (64, 66) provided in the housing (22, 62, 63), said window (64, 66) being electrically conductive or semi-conductive or having an electrically conductive or semi-conductive coating.
10. (Previously Presented) Sensor module according to claim 1, characterised by an optical imaging element (65, 66) provided in the housing (22, 62, 64).
11. (Previously Presented) Sensor module according to claim 9, characterised in that the imaging element is provided in the window of the housing.
12. (Previously Presented) Sensor module according to claim 10, characterised in that the imaging element (65, 66) comprises a lens (66) or a mirror (65).
13. (Previously Presented) Sensor module according to claim 1, characterised by preferably digital programming means (48, 51) provided in the housing (22, 62, 64) for setting the operating parameters of the sensor module.
14. (Previously Presented) Sensor module according to claim 1, characterised in that the combining means (16) is an integrator amplifier.

15. (Previously Presented) Sensor module according to claim 1, characterised in that the combining means is a digital circuit (51) receiving the signals from the sensor means (13, 41a) and the reference means (14, 15, 41b) via A/D converters and outputting a digital, preferably temporally serial signal.

16. (Previously Presented) Sensor module according to claim 1, characterised in that the combining means is a digital circuit (51) outputting digital signal as YES/NO values to be used for monitoring a temperature threshold and/or for controlling one or more temperatures to one or more target values, the target values being programmable.

17. (Previously Presented) Sensor module according to claim 1, characterised in that the sensor signal processing circuit (13, 41a, 44a), the reference means (14, 15, 41b, 43, 44b) and the combining means (16, 51) are formed as an integrated circuit on one chip.

18. (Previously Presented) The sensor module of claim 1 wherein the reference means comprises elements for characteristics simulation, the elements simulating characteristics of the sensor element with an exponential function or a power function.